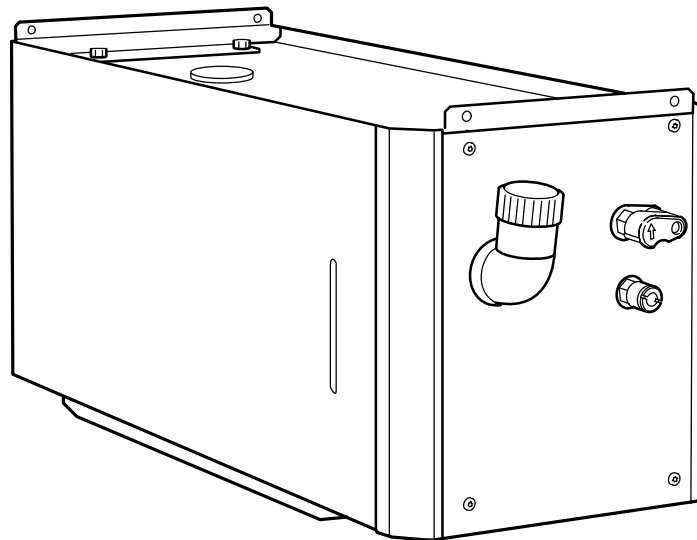


CoolMidi 1000



Instruction manual



DECLARATION OF CONFORMITY

According to

The Low Voltage Directive 2006/95/EC, entering into force 16 January 2007

The EMC Directive 2004/108/EC, entering into force 20 July 2007

Type of equipment

Arc welding cooling unit

Type designation

CoolMidi 1000, from serial number 835 xxx xxxx (2008 w.35)

Brand name or trade mark

ESAB

Manufacturer or his authorized representative established within the EEA:

Name, address, phone, website:

ESAB AB

Lindholmsallén 9

Box 8004, 402 77 GÖTEBORG, Sweden

Phone: +46 31 509 000

Website: www.esab.com

The following harmonized standards, in force within the EEA, has been used in the design:

EN 60974-2, Arc welding equipment – Part 2: Liquid cooling systems

EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

Additional information:

Restrictive use, Class A equipment, intended for use in locations other than residential.

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorized representative established within EEA, that the equipment in question complies with the safety requirements stated above.

Date

2012-09-27

Signature

A handwritten signature in black ink, appearing to be "JF", written over a horizontal line.

Jerker Funnemark
Clarification

Position

Managing Director
Equipment & Automation

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1 SAFETY

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up.
 - no-one is unprotected when the arc is struck
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves.
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. General precautions
 - Make sure the return cable is connected securely.
 - Work on high voltage equipment **may only be carried out by a qualified electrician.**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
 - Lubrication and maintenance must **not** be carried out on the equipment during operation.



WARNING



Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting. Ask for your employer's safety practices which should be based on manufacturers' hazard data.

ELECTRIC SHOCK - Can kill

- Install and earth the unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin.

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION - Call for expert assistance in the event of malfunction.

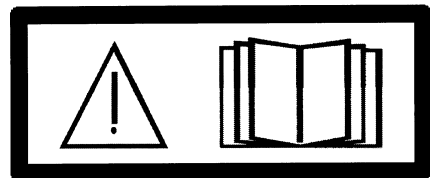
Read and understand the instruction manual before installing or operating.

PROTECT YOURSELF AND OTHERS!



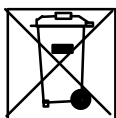
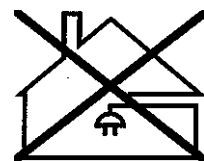
CAUTION

Read and understand the instruction manual before installing or operating.



CAUTION

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.



Dispose of electronic equipment at the recycling facility!

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.

ESAB can provide you with all necessary welding protection and accessories.

2 INTRODUCTION

Cooling unit **CoolMidi 1000** is intended for cooling welding torches.

ESAB's accessories for the product can be found on page 19.

2.1 Equipment

The cooling unit is supplied with:

- Instruction manual
- Assembly instructions
- Coolant

3 TECHNICAL DATA

CoolMidi 1000	
Mains voltage	400 V, $\pm 10\%$, $\sim 50/60$ Hz
Primary current I_{\max} 50 Hz I_{\max} 60 Hz	0.7 A 0.75 A
Cooling power at 400 V, 50 Hz at 400 V, 60 Hz	1.1 kW at 40° C temperature difference and flow 1 l/min 1.0 kW at 40° C temperature difference and flow 1 l/min
Constant sound pressure at no-load	< 70 dB (A)
Type of cooling	50% water / 50% mono-ethylene glycol
Coolant quantity	5 l
Maximum water flow	4 l/min
Fuse in cooling unit, delayed action	2 x 1 AT
Max pressure lift for welding torche Q_{\max}	7 m
Operating temperature	-10 to +40° C
Transportation temperature	-20 to +55° C
Rpm at 50 Hz at 60 Hz	2800 rpm 3200 rpm
Maximum water pressure at 50 Hz at 60 Hz	0.30 MPa (3 bar) 0.38 MPa (3.8 bar)
Dimensions l x w x h including filler pipe	630 x 245 x 300 mm 690 x 245 x 300 mm
Weight water-filled empty	19 kg 14 kg
Enclosure class	IP23

Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

4 INSTALLATION

The installation must be carried out by a professional.

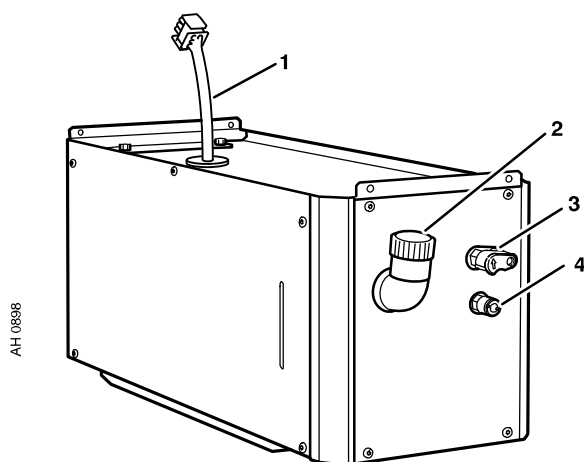
4.1 Location

Position the cooling unit such that its cooling air inlets and outlets are not obstructed.

5 OPERATION

General safety regulations for handling the equipment can be found on page 4. Read through before you start using the equipment!

5.1 Connections



- 1 Connection for mains cable / control cable from power source
- 2 Filling the coolant
- 3 Connection BLUE, with ELP* for coolant from cooling unit
- 4 Connection RED for coolant to cooling unit

*ELP = ESAB Logic Pump, see point 5.2.

5.2 Water connection

The cooling unit is equipped with a detection system **ELP (ESAB Logic Pump)** which checks that the water hoses are connected. When connecting a water-cooled welding torch, cooling starts.

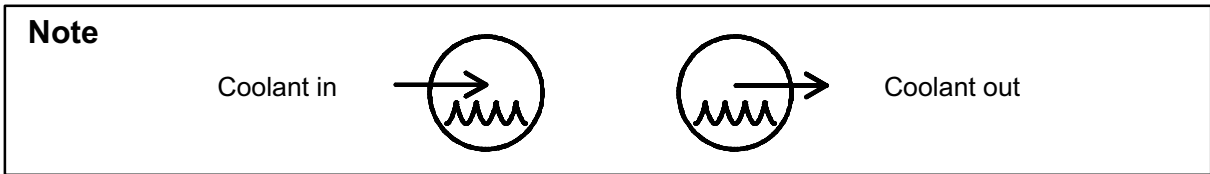
Detection only works with power sources that are equipped with the ELP function.

To ensure problem-free operation, the installation height from the cooling unit to the welding gun must be max. 7 m. Heights in excess of this can cause problems, such as long starting times, air bubbles, vacuums, etc.

If an installation height in excess of 7 m is required, we recommend an installation kit comprising a non-return valve and a solenoid valve, refer to accessories on page 19. Once these valves have been installed, the hose package must be horizontal during the initial startup so that everything fills with water. Then raise the wire feed unit and hose package to the high height. Continued safe operation at installation heights of up to 12 m can now commence.

5.3 Water flow guard


The water flow guard blocks the power source if the coolant stops (minimum water flow 0.7 l/min). The water flow guard is an accessory, see page 19 .



6 MAINTENANCE


Regular maintenance is important for safe, reliable operation.

Only those persons who have appropriate electrical knowledge (authorized personnel) may remove the safety plates.

 **CAUTION**

All guarantee undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the guarantee period.

6.1 Inspection and cleaning

 **WARNING!** *The mains supply must be disconnected before cleaning!*

The air stream through the cooling unit carries particles that become trapped in the cooling element, particularly in dirty working environments. This results in reduced cooling capacity. For this reason, blow clean using compressed air at regular intervals.

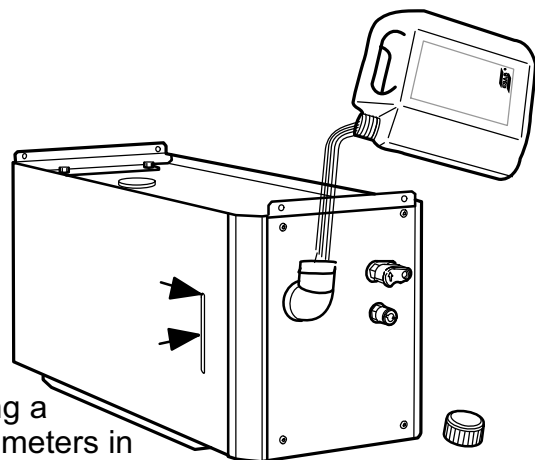
Dismantle the right side panel and blow clean with compressed air.

Change the coolant once a year and clean the complete cooling system.

6.2 Filling the coolant

ESAB's ready mixed coolant is recommended for use. See accessories on page 19.

- Fill with coolant.
(The fluid level must not exceed the upper marking but neither must it be below the lower marking)
- Disconnect the coolant hose for outgoing water (welding torch's blue connection) in order for any trapped air to disappear.
- Connect the coolant hose again.



Note! Coolant must be topped up if connecting a welding torch or connection cables that are 5 meters in length or longer. When adjusting the water level by topping up, the coolant hose does not need to be disconnected.

The temperature of the coolant must not exceed 70° C.



CAUTION

The coolant must be handled as chemical waste.

7 FAULT-TRACING

Try these recommended checks and inspections before sending for an authorized service technician.

Fault	Corrective action
The control panel indicates a fault code for water flow.	<ul style="list-style-type: none"> • Check that the cooling unit is running. • If there is a flow, the water flow guard (accessory) may be defective.
Poor cooling effect	<ul style="list-style-type: none"> • Clean the cooling element using compressed air. • Check the coolant level.

8 ORDERING SPARE PARTS

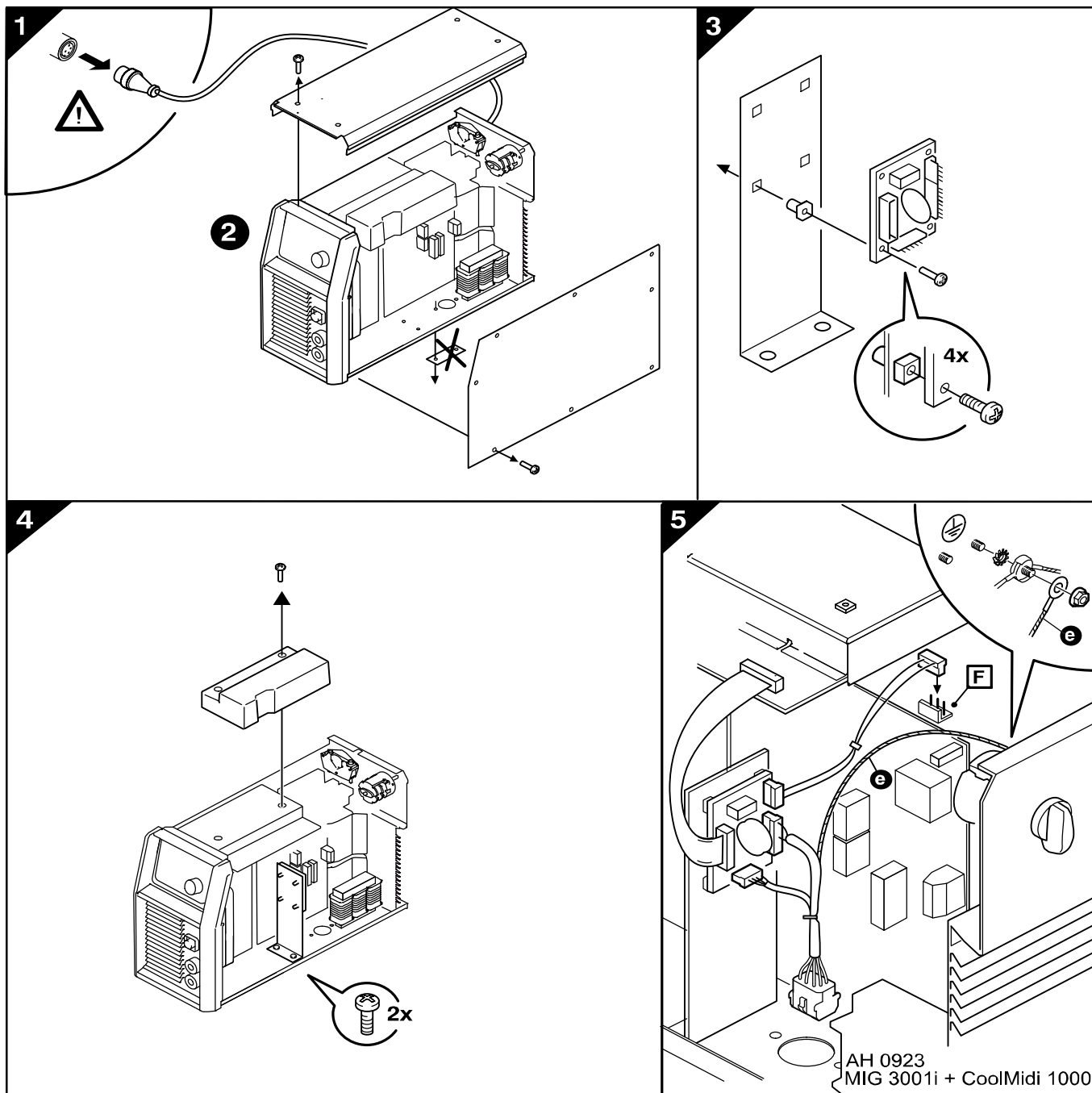
Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

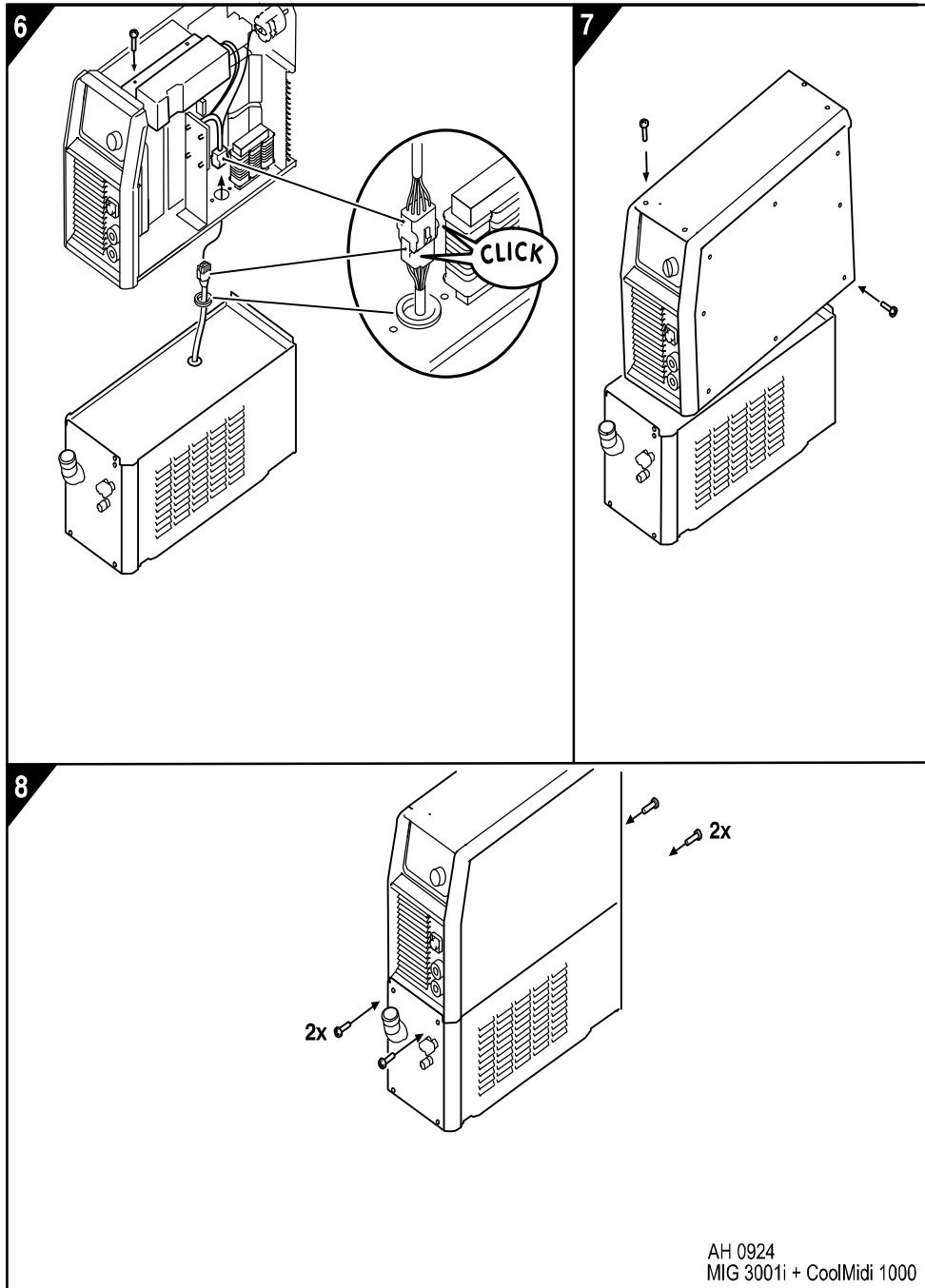
CoolMidi 1000 is designed and tested in accordance with the international and European standards EN 60974-2 and EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.

Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

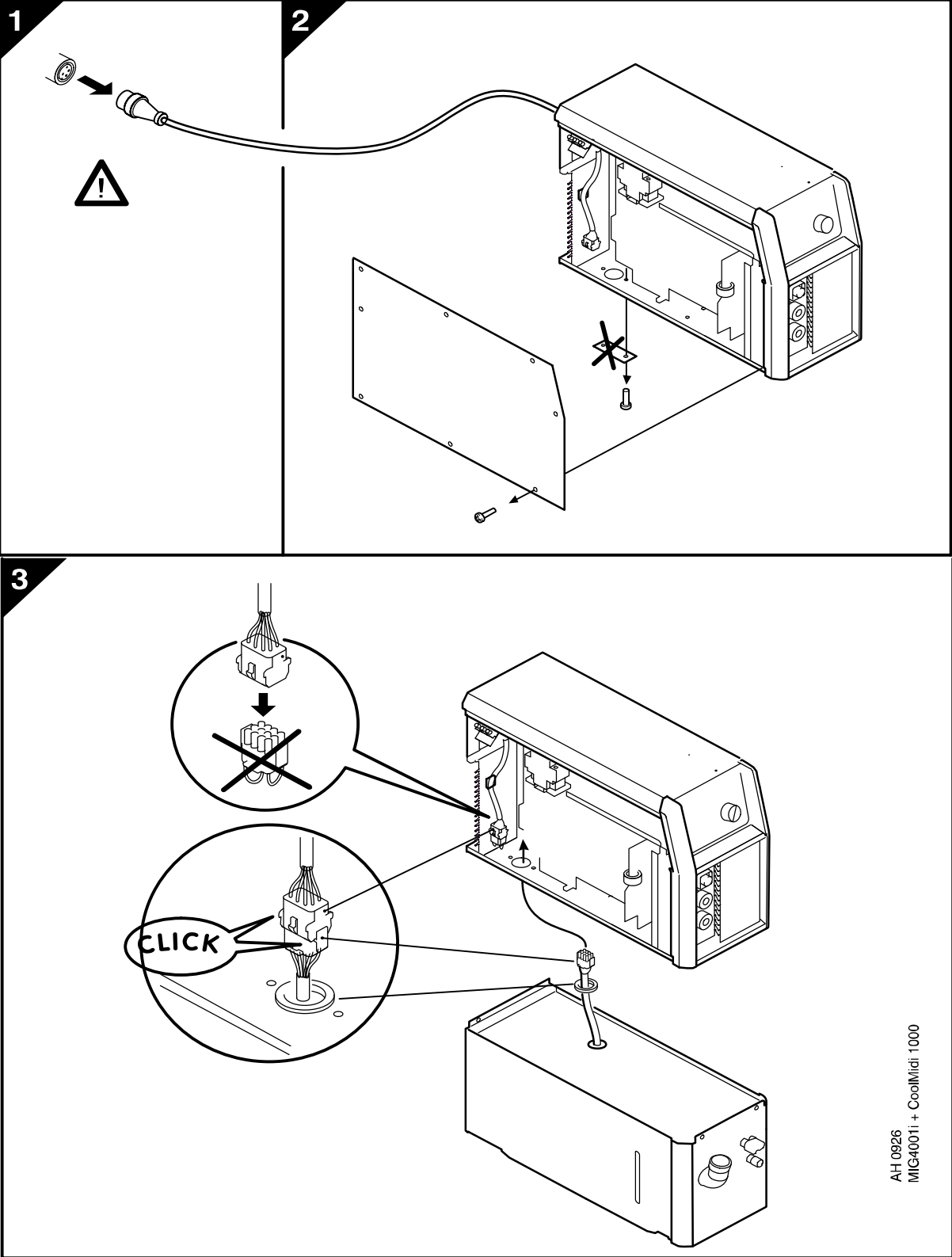
Assembly instructions

MIG 3001i + CoolMidi 1000

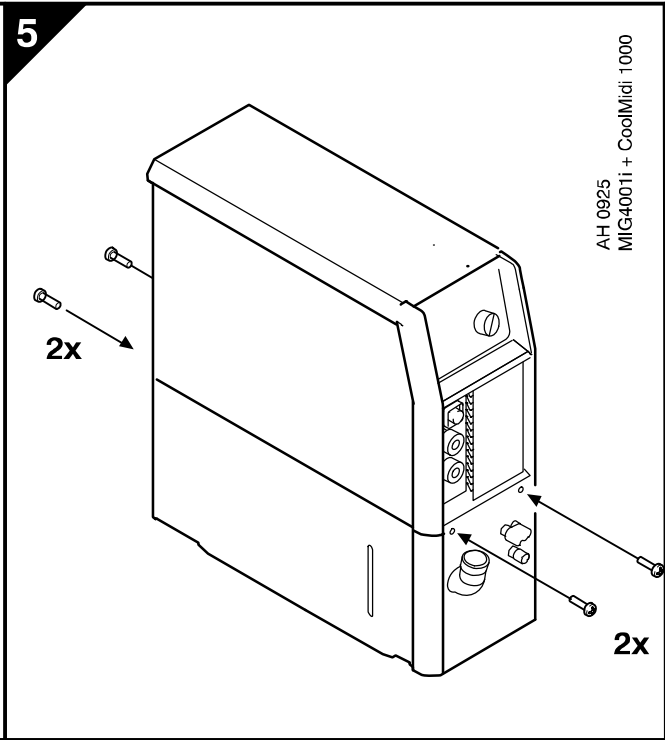
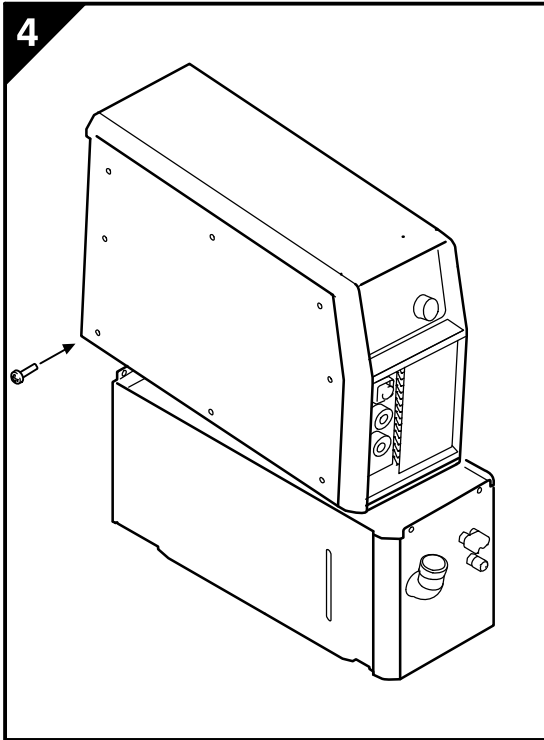




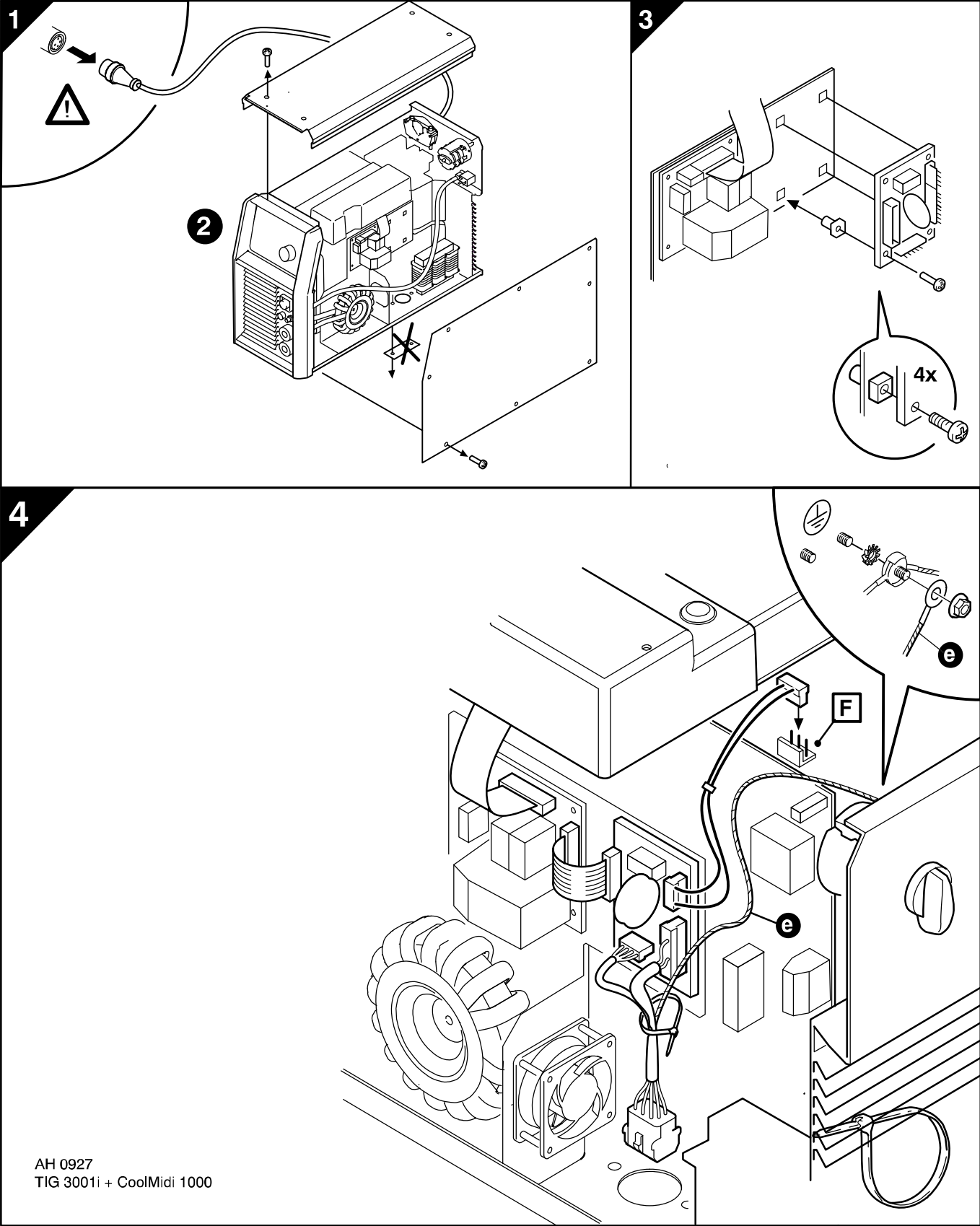
MIG 4001i + CoolMidi 1000



AH 0926
MIC4001i + CoolMidi 1000

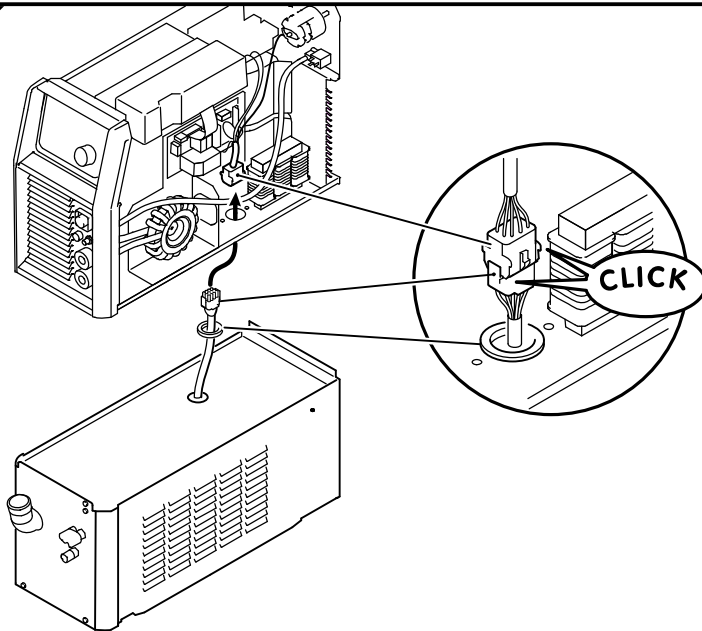


TIG 3001i + CoolMidi 1000

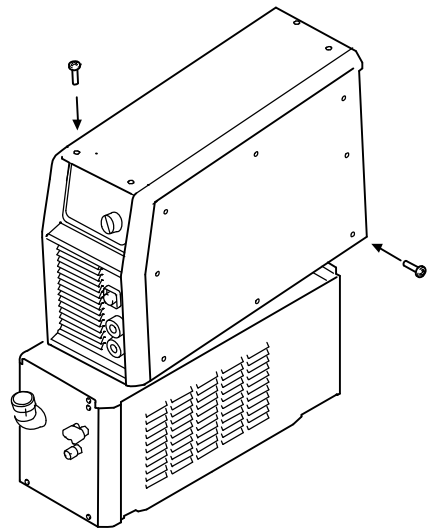


AH 0927
 TIG 3001i + CoolMidi 1000

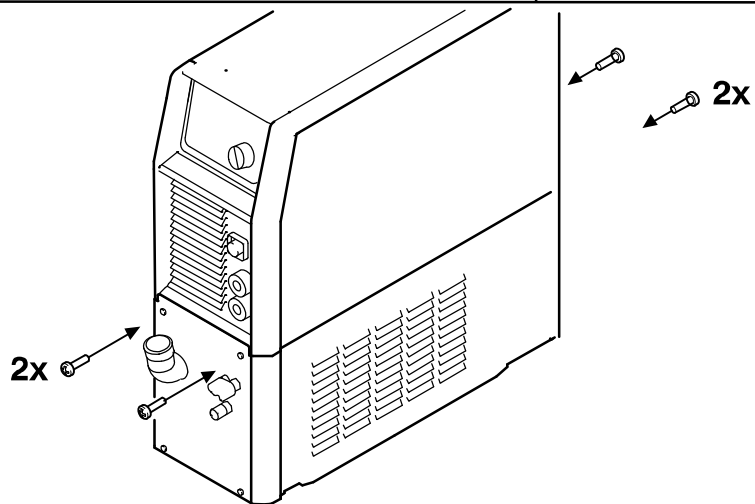
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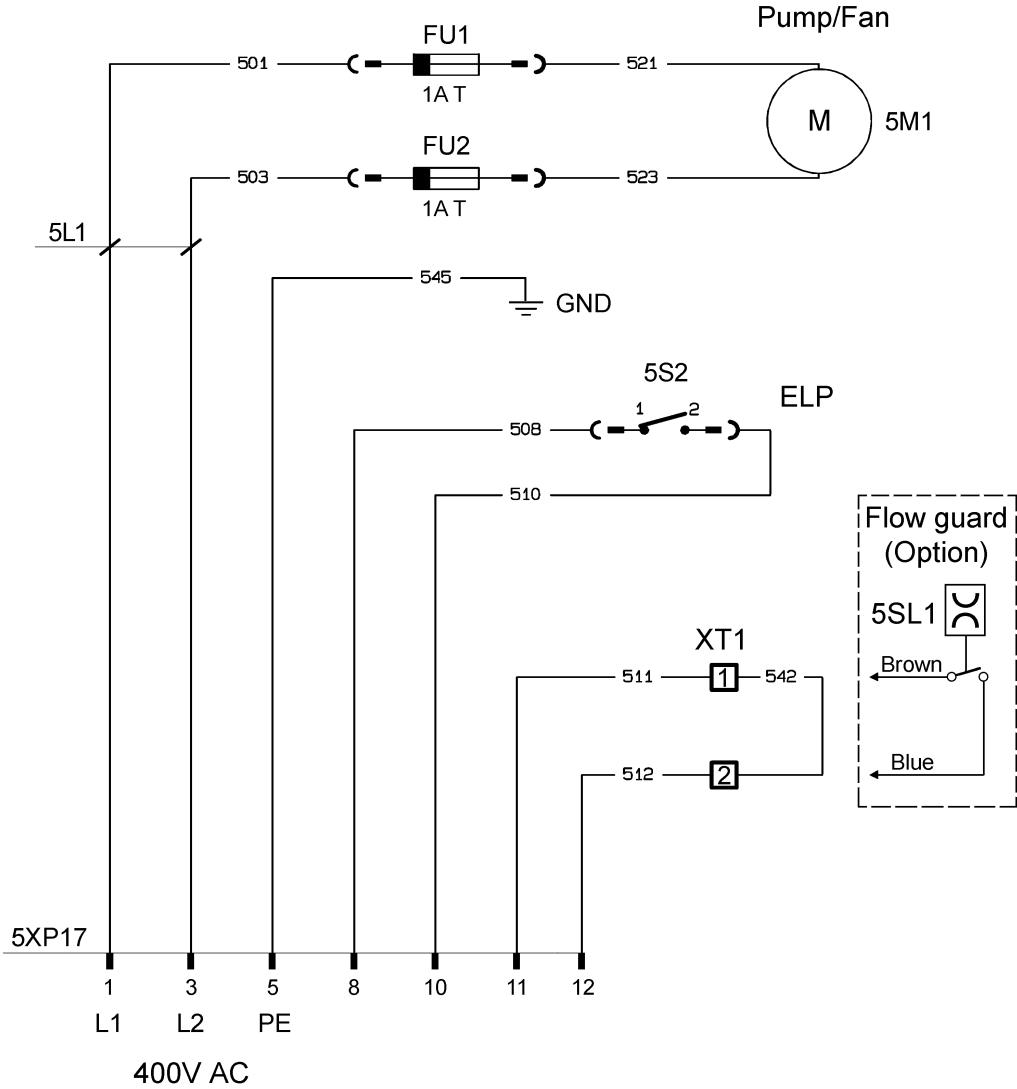


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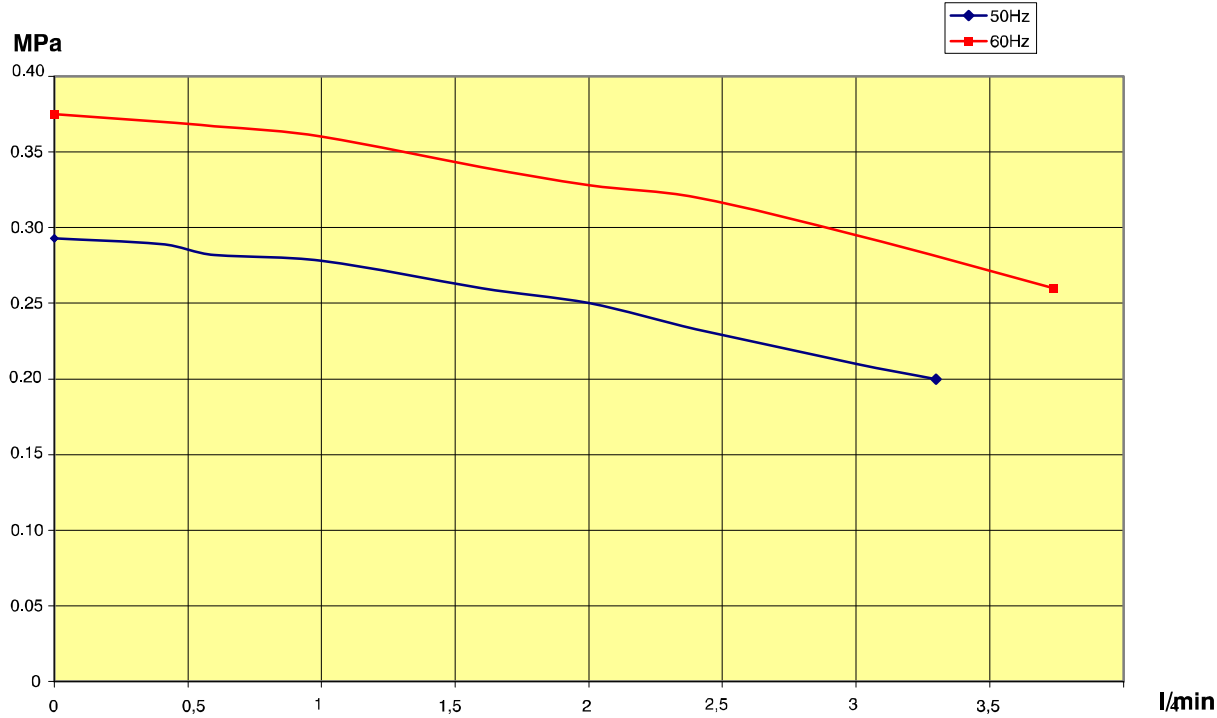


AH 0928
TIG 3001i + CoolMidi 1000

Diagram

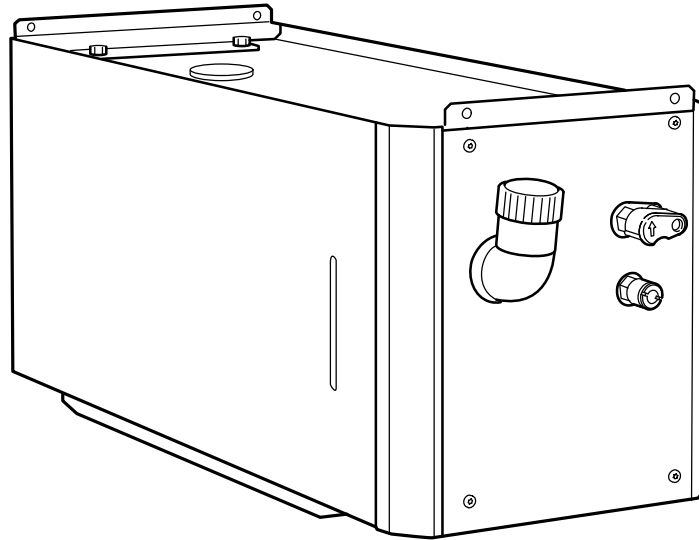


Pump data



CoolMidi 1000

Order number

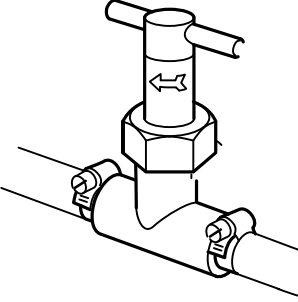
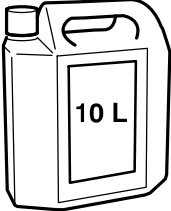
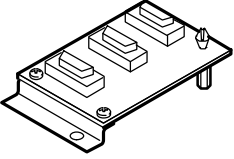
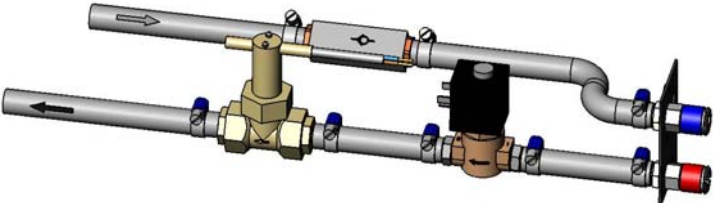


Ordering no.	Denomination	Type
0460 490 880	Cooling unit	CoolMidi 1000
0459 839 030	Spare parts list	CoolMidi 1000

Technical documentation is available on the Internet at www.esab.com

CoolMidi 1000

Accessories

 A technical drawing of a water flow guard. It consists of a central vertical pipe with a T-shaped handle on top. Two side pipes are connected to the main pipe, each with a small valve. An arrow on the central pipe indicates the direction of flow.	Water flow guard 0456 855 881
 A technical drawing of a 10-liter coolant container. It is a rectangular plastic jug with a handle and a cap. The text "10 L" is printed on the front.	ESABs ready mixed coolant 0007 810 012
 A technical drawing of a connection kit. It shows a metal plate with several electrical terminals and a small component attached to it.	Connection kit for welding power source Mig 3001i and Tig 3001i 0460 685 881
 A technical drawing of a water return flow guard assembly. It features two parallel pipes. The top pipe has a flow guard and a non-return valve. The bottom pipe has a solenoid valve. Arrows indicate the direction of flow.	Water return flow guard 0461 203 880 Flow guard, non return valve & solenoid valve

ESAB subsidiaries and representative offices

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